

ABSTRACTED-PUB-NO: WO 9844321A

EQUIVALENT-ABSTRACTS:

The time-based digital temperature sensing system includes a first oscillator which is temperature sensitive and has a temperature coefficient which allows it to generate an output signal which has a period which varies approximately linearly as a function of temperature. A second oscillator generates a reference clock signal. A timer has a clock input coupled to an output of the second oscillator and an enable input coupled to an output of the first oscillator to generate a number indicative of a length of time the timer is enabled by the first oscillator. The number is approximately proportional to a current temperature of a material being measured by the temperature sensing system.

The timer generates the number by counting rising edges of the reference clock signal when it is enabled by the first oscillator. The timer has a reset/load input coupled to the output of the first oscillator to reset the number to an initial value when the timer is disabled by the first oscillator and/or signalling the timer to load an initial value for it to generate the number. A latch has an input coupled to the timer and a load input coupled to the output of the first oscillator to load and store the number indicative of the length of time the timer is enabled prior to the number being reset by the reset input.

ADVANTAGE - Allows accurate temperature measurement by reducing potential sources of error such as noise.

CHOSEN-DRAWING: Dwg.1/5